



# State Revolving Fund Loan Program

an Indiana Finance Authority Environmental Program

100 North Senate Avenue, Room 1275  
Indianapolis, Indiana 46204  
www.srf.in.gov

## MEMORANDUM

TO: Official Loan File

FROM: Richard J. Ziemba

DATE: December 21, 2011 (Final)

RE: Green Project Reserve, Business Case for City of Rensselaer, Water Treatment and Storage Upgrades, SRF Project # DW 10123702

### Summary

1. The Rensselaer Water Treatment and Storage Upgrades are intended to optimize the existing treatment process train by decommissioning the existing sedimentation basin and replacing or rehabilitating all major process equipment. Replaced equipment includes the aerator, chemical systems, high service pumps, SCADA system, all process piping and valves. Other improvements include rehabilitation of the existing pressure filters and zeolite softeners, repairs to the interior walls of the existing clearwells, replacement of the building HVAC, electrical, and lighting systems, reconfiguration of the storage and work areas, and relocation of various pieces of equipment to maximize the use of the building space. The project also included the rehabilitation of water storage and the installation of water main to an unserved area. Business cases for the energy efficient, water efficient and environmentally innovative components were developed by Clark Dietz, consulting engineers for the City.
2. The energy efficient components are: premium efficiency motors and VFDs on the high services pumps and brine transfer pumps. The estimated construction cost for these components was \$243,800 along with the engineering cost of \$24,380, which total \$268,180. The actual bid cost for this item was \$176,900, along with the engineering of \$24,380, which brings the total GPR cost for this item using as-bid costs to \$201,280. The other energy efficient components are building space improvements such as energy efficient lighting and new HVAC systems. The estimated construction cost was \$191,000 along with the engineering cost of \$19,160, for a total estimated cost of \$210,760. The as-bid cost for the building space improvements and new HVAC systems is \$140,200 with the engineering cost to be \$19,160, which brings the total GPR cost for this item using as-bid costs to \$159,360. **The total energy efficiency amount for all components is \$360,640.**
3. The environmentally innovative component is the installation of a bio-retention storm water treatment system. The existing building roof drains currently enter the sanitary sewer. By utilizing the bio-retention treatment system, the building roof drains and site area drains will be routed there for storm water treatment. Therefore, this component is considered to



environmentally innovative. The estimated cost of this component was \$17,700, along with the engineering cost of \$1,770, for a total estimated cost of \$19,470. **The as-bid cost for the bio-retention treatment system is \$15,400 with the engineering cost of \$1,770 which brings the as-bid costs for this item to \$17,170.**

4. The water efficient portions of the project consist of the replacement of major pieces of equipment, rehabilitation of tanks, and the installation of a SCADA system. The business case estimated by the incorporation of these improvements that an estimated 53% water efficiency would be obtained. The estimated construction cost for these items was \$589,800, with an estimated engineering cost of \$58,980, which brings the total for this item to \$648,780. **The as-bid cost for these items is \$576,400, with the engineering costs of \$58,980, which brings the total as-bid cost for these items to \$635,380.**
5. The total GPR amount was estimated at \$1,147,190. **The actual as-bid GPR total cost is \$1,013,190.** The City closed on a SRF loan on December 14, 2011 in the amount of \$4,445,000.

## **Conclusions**

The business cases were reviewed by internal staff and found to be in accordance with GPR requirements.